Data opportunities for intelligent mobility in New Zealand

Joanne Chang, Chris Bowie, Tim Cross, Louise Baker
Research topics

- What intelligent mobility trends are expected in New Zealand?
- How is data being shared and who is using it?
- What data-related capabilities are needed?
- Barriers and challenges to creating, opening up, and using data in transport.
<table>
<thead>
<tr>
<th>Company Name</th>
<th>Company Name</th>
<th>Company Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abley Transportation</td>
<td>Fonterra</td>
<td>Qrious</td>
</tr>
<tr>
<td>Ashburton District Council</td>
<td>Google</td>
<td>Road Controlling Authorities Forum</td>
</tr>
<tr>
<td>API Talent</td>
<td>Green Signal Ltd</td>
<td>Selwyn District Council</td>
</tr>
<tr>
<td>Automobile Association</td>
<td>H.R.L Morrison &amp; Co</td>
<td>Snapper</td>
</tr>
<tr>
<td>Auckland Motorway Alliance</td>
<td>Hack Miramar</td>
<td>Statistics New Zealand</td>
</tr>
<tr>
<td>Auckland Transport</td>
<td>HERE</td>
<td>Tauranga City Council</td>
</tr>
<tr>
<td>Auckland University of Technology</td>
<td>KiwiRail</td>
<td>Tauranga Traffic Operations Centre</td>
</tr>
<tr>
<td>Bay of Plenty Regional Council</td>
<td>KotahiNet</td>
<td>ThunderMaps</td>
</tr>
<tr>
<td>Beca</td>
<td>Lyttelton Port Company</td>
<td>TomTom</td>
</tr>
<tr>
<td>Christchurch Airport</td>
<td>Mastercard</td>
<td>Trip Convergence</td>
</tr>
<tr>
<td>Conduent (formerly Xerox)</td>
<td>Media Suite</td>
<td>Uber</td>
</tr>
<tr>
<td>Datacom (formerly Xerox)</td>
<td>Microsoft</td>
<td>University of Canterbury</td>
</tr>
<tr>
<td>Downer ITS</td>
<td>Navman</td>
<td>Wellington City Council</td>
</tr>
<tr>
<td>Environment Canterbury</td>
<td>NEC</td>
<td>Wellington Airport</td>
</tr>
<tr>
<td>EROAD</td>
<td>New Zealand Taxi Federation</td>
<td>WSP Opus</td>
</tr>
<tr>
<td>Figure.NZ</td>
<td>New Zealand Transport Agency</td>
<td></td>
</tr>
<tr>
<td>Fleetpin Ltd</td>
<td>Office of the Privacy Commissioner</td>
<td></td>
</tr>
</tbody>
</table>
‘The enabling of emerging technologies to improve the movement of people and goods in a smarter, greener and more efficient manner.’
## Anticipated intelligent mobility trends

### Short-term trends: present to 5 years out.
- Increased sensor coverage and volumes of data
- New transport services emerging
- Enhanced tools for managing and operating networks
- Enhanced tools for data analysis and data insights
- More open and available datasets
- Mobility as a Service platforms introduced
- Data as a Service models growing and adding value
- AV testing in NZ and overseas

### Medium-term trends: 5 to 15 years out.
- New modes of transport available to move people and goods
- Demand responsive pricing and prioritisation of services, infrastructure and networks
- Increased intelligence in collaborations
- Optimised journey planning applications
- MaaS models becoming widespread with integration between public + private services
- AVs tested and registered for use in a range of applications and settings

### Long-term trends: more than 15 years out.

WSP Opus
Data needs

- Augmented GNSS and high res map data.
- Who, where, how and why?
- Vehicle locations and trips.
Data needs

Augmented GNSS and high res map data.

Who, where, how and why?

Vehicle locations and trips.

Infrastructure demand and availability

Journey costs by mode.

Network performance and management

WSP Opus
Barriers and challenges for creating, opening-up and using data for transport

1. Incentivising the sharing of public and private data.
Barriers and challenges for creating, opening-up and using data for transport

1. Incentivising the sharing of public and private data.
2. Standardisation of data and data systems.
3. Legacy systems.
Barriers and challenges for creating, opening-up and using data for transport

1. Incentivising the sharing of public and private data.
2. Standardisation of data and data systems.
3. Legacy systems.
4. Government funding of data and technology development.
Barriers and challenges for creating, opening-up and using data for transport

1. Incentivising the sharing of public and private data.
2. Standardisation of data and data systems.
3. Legacy systems.
4. Government funding of data and technology development.
5. Commercial sensitivity.
Barriers and challenges for creating, opening-up and using data for transport

1. Incentivising the sharing of public and private data.
2. Standardisation of data and data systems.
3. Legacy systems.
4. Government funding of data and technology development.
5. Commercial sensitivity.
6. Confidence in new technologies and services.
7. Rapidly increasing rate of development.
Barriers and challenges for creating, opening-up and using data for transport

1. Incentivising the sharing of public and private data.
2. Standardisation of data and data systems.
3. Legacy systems.
4. Government funding of data and technology development.
5. Commercial sensitivity.
6. Confidence in new technologies and services.
7. Rapidly increasing rate of development.
8. **Security and privacy of information about people.**
Barriers and challenges for creating, opening-up and using data for transport

1. Incentivising the sharing of public and private data.
2. Standardisation of data and data systems.
3. Legacy systems.
4. Government funding of data and technology development.
5. Commercial sensitivity.
6. Confidence in new technologies and services.
7. Rapidly increasing rate of development.
9. Data related capabilities.
Key actions and recommendations

- New business models for data are needed.
- Very much about better connections and linkages between actors.
- Government has the opportunity to play a vital role in creating connections and enabling opportunities.
- Initiatives such as the Data Hub are central to this.
Research report

The full text of the research report can be found at:

https://www.transport.govt.nz/resources/research-papers